

**for topic/theme: post-launch performance or JPSS spotlight**

**The Advanced Technology Microwave Sounder (ATMS):**

**The First 10 Months On-Orbit**

Edward Kim <sup>\*1</sup>, C-H Joseph Lyu <sup>1,9</sup>, William Blackwell <sup>2</sup>, R. Vince Leslie <sup>2</sup>,  
Neal Baker <sup>3</sup>, Tsan Mo <sup>4</sup>, Ninghai Sun <sup>4</sup>, Li Bi <sup>4</sup>, Kent Anderson <sup>5</sup>,  
Mike Landrum <sup>5</sup>, Giovanni De Amici <sup>6</sup>, Degui Gu <sup>6</sup>, Alex Foo <sup>6</sup>, Wael Ibrahim <sup>7</sup>,  
Kris Robinson <sup>8</sup>, Lynn Chidester, James Shiue <sup>1</sup>

<sup>1</sup> \*NASA Goddard Space Flight Center

<sup>2</sup> Lincoln Laboratory, Massachusetts Institute of Technology

<sup>3</sup> Aerospace Corporation

<sup>4</sup> NOAA Center for Satellite Applications and Research

<sup>5</sup> Northrop Grumman Electronic Systems

<sup>6</sup> Northrop Grumman Aerospace Systems

<sup>7</sup> Raytheon Intelligence and Information Systems

<sup>8</sup> Space Dynamics Laboratory, Utah State University

<sup>9</sup> [IMSG@NASA/GESTAR](mailto:IMSG@NASA/GESTAR)

The Advanced Technology Microwave Sounder (ATMS) is a new satellite microwave sounding sensor designed to provide operational weather agencies with atmospheric temperature and moisture profile information for global weather forecasting and climate applications. ATMS will continue the microwave sounding capabilities first provided by its predecessors, the Microwave Sounding Unit (MSU) and Advanced Microwave Sounding Unit (AMSU). The first ATMS was launched October 28, 2011 on board the NPOESS Preparatory Project (NPP) satellite. Microwave soundings by themselves are the highest-impact input data used by Numerical Weather Prediction (NWP) models, especially under cloudy sky conditions.

ATMS has 22 channels spanning 23—183 GHz, closely following the channel set of the MSU, AMSU-A1/2, AMSU-B, Microwave Humidity Sounder (MHS), and Humidity Sounder for Brazil (HSB). All this is accomplished with approximately ¼ the volume, ½ the mass, and ½ the power of the three AMSUs.

A description of ATMS cal/val activities will be presented followed by examples of its performance after its first 10 months on orbit.

Contact info: Edward Kim, NASA GSFC Code 617, Greenbelt, MD 20771

Phone: 301-614-5653; Fax: 301-614-5808; email: [ed.kim@nasa.gov](mailto:ed.kim@nasa.gov)